What is claimed is:

1.   Apparatus adapted for use with a test probe, said test probe having associated with it an impedance, said apparatus comprising:

5   a memory, for storing transfer parameters associated with said probe impedance; and

a controllable impedance device, for adapting an effective input impedance of said test probe in response to said stored transfer parameters.

10   2.   The apparatus of claim 1, further comprising:

a controller, for adapting said stored transfer parameters in response to a control signal.

3.   The apparatus of claim 1, further comprising:

15   a display device, for displaying a waveform representing a signal received from said test probe and adapted according to said transfer parameters.

4.   The apparatus of claim 1, wherein:

said controllable impedance device comprises a selectable network of resistive and

20   reactive components.

5.   The apparatus of claim 1, wherein:

said apparatus comprises a test fixture adapted to connect the signal from said DUT to a tip of said test probe.

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6.   The apparatus of claim 5, wherein:

said test fixture connects with said DUT via a test fixture probe tip.

7.   The apparatus of claim 6, wherein said test fixture probe tip comprises any one of a

30   plurality of test fixture probe tips, each of said test fixture probe tips having associated with it a respective transfer parameter stored in said memory.

8.   The apparatus of claim 7, wherein:

in response to the connection of a test fixture probe tip to said test fixture, said

35   transfer parameter associated with said connected test fixture probe tip is used to adapt said controllable impedance device.

9.   The apparatus of claim 1, wherein:
        said apparatus is integrated into said test probe.

10.   The apparatus of claim 1, further comprising:
5   a communications processor, adapted for receiving transfer parameters from a communications medium.

11.   The apparatus of claim 1, wherein:
        said transfer parameters comprise at least one of S parameters and T parameters
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12.   The apparatus of claim 1, wherein:
        said memory stores transfer parameters associated with at least one of said DUT and a signal acquisition device adapted for use with said test probe.

15   13.   The apparatus claim 12, wherein:
        said memory further stores additional transfer parameters, said additional transfer parameters adapted to characterize a circuit disposed between a test point accessible to said probe and a non-accessible test point.

20   14.   The apparatus claim 12, wherein:
        said memory further stores user provided transfer parameters, said additional transfer parameters adapted modify an impedance characterization of at least one of a probe, a device under test and circuitry disposed between said probe and said DUT.

25   15.   The apparatus of claim 1, wherein:
        said apparatus selectively adapts said effective input impedance of said test probe to provide thereby compensated result and a non-compensated result.

16.   The apparatus of claim 15, wherein:
30   said compensated result may comprise a partially compensated result.

17.   A method, comprising:
        acquiring a plurality of samples from a device under test via a signal path including a plurality of selectable impedance loads;
35   adapting said selectable impedance loads to characterize the impedance of said DUT within at least one of a spectral and amplitude domain;

computing an equalization filter adapted to compensate for loading of said DUT caused by measurement of said DUT;

acquiring samples from said DUT via a signal path not including said selectable impedance loads; and

5   processing said acquired samples using said equalization filter to effect thereby a reduction in signal error attributable to said measurement loading of said DUT.

18.   The method of claim 17, wherein said step of adapting said selectable impedance loads comprises computing, for each of a plurality of load selections, parameters associated

10   with a two-port network representation of the following form:

$$1 = \begin{pmatrix} Td_1 & Td_2 \end{pmatrix} \cdot \begin{pmatrix} Tu_{11} & Tu_{12} \\ Tu_{21} & Tu_{22} \end{pmatrix} \cdot \begin{pmatrix} Tfi_{11} & Tfi_{12} \\ Tfi_{21} & Tfi_{22} \end{pmatrix} \cdot \begin{pmatrix} Tp_{11} & Tp_{12} \\ Tp_{21} & Tp_{22} \end{pmatrix} \cdot \begin{pmatrix} ai_s \\ 0 \end{pmatrix}$$

19.   The method of claim 18, further comprising:

computing an open circuit voltage (v_{open}) at the device under test probe point using

15   an equation of the following form:

$$v_{open} = 2\, a_0 = \frac{2}{Td_1 + Td_2}$$

20.   The method of claim 19, wherein the open circuit voltage $\widehat{v}_{open}$ is realized using a filter having a transfer function of the following form:

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$$H = \frac{v_{open}}{ai_s}$$

such that:

$$\widehat{v}_{open} = H \cdot \widehat{a}_s$$

where ai_s is a measurement of an i-th load during a calibration procedure, and $\widehat{a}_s$ is a measurement of the i-th load during a testing procedure.

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21.   The method of claim 18, further comprising:

computing an open circuit voltage (v_{open}) at the device under test probe point using at least one of an S parameter and a T parameter associated with the device under test.

22.   The method of claim 18, further comprising:

receiving transfer parameters characterizing a circuit between said probe and said DUT;

said equalization filter further adapted to compensate for loading of said DUT caused by said circuit between said probe and said DUT.

23.   The method of claim 22, wherein:

said transfer parameters are received from a user.

24.   A test and measurement instrument including a processor for processing instructions stored in a memory to execute thereby a method comprising:

acquiring a plurality of samples from a device under test via a signal path including a plurality of selectable impedance loads;

adapting said selectable impedance loads to characterize the impedance of said DUT within at least one of a spectral and amplitude domain;

computing an equalization filter adapted to compensate for loading of said DUT caused by measurement of said DUT;

acquiring samples from said DUT via a signal path not including said selectable impedance loads; and

processing said acquired samples using said equalization filter to effect thereby a reduction in signal error attributable to said measurement loading of said DUT.

25.   The instrument of claim 24, wherein said method further comprises:

receiving additional characterizing information; and

using said additional characterizing information to compute said equalization filter.